

**AIR FORCE LARGE/MEDIUM OPUP INSTALLATION  
AND CHECK-OUT**

**DOPPLER METEOROLOGICAL RADAR  
WSR-88D**



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**DoD APPROVAL:**

**BY ORDER OF THE SECRETARY OF THE AIR FORCE**

**JOHN P. JUMPER, General, USAF**  
**Chief of Staff**

\_\_\_\_\_  
Date \_\_\_\_\_  
**Edward L. Berkowitz, Chief**  
**Program Branch**  
**Radar Operations Center**  
**TOMA**

**1. SUBJECT**

Deployment of Large/Medium Open Principle User Processor (OPUP).

**2. PURPOSE**

The Legacy PUP functionality is being replaced by the Large/Medium OPUP to take advantage of commercial advancements in computer hardware and software. This document records the completed installation of the OPUP hardware at Air Force sites. The authority for this TCTO is Engineering Change Proposal (ECP) 0163, OPUP - Spiral I - PUP Hardware Rehost and Software Redesign to Support Association to Multiple RPGs and ECP 0163 - OPUP Spiral 2 Including the Addition of Navy OPUPs.

For additional information concerning this document, contact the ROC Hotline, Norman, OK; phone number: (800) 643-3363 or (405) 366-2980 or by e-mail at [NEXRAD.Hotline@noaa.gov](mailto:NEXRAD.Hotline@noaa.gov). An electronic copy of this document can be found at the following internet address:

[www.roc.noaa.gov/ssb/sysdoc/techman/tmlinks.asp](http://www.roc.noaa.gov/ssb/sysdoc/techman/tmlinks.asp)

**3. SITES AFFECTED**

See [ATTACHMENT 1](#).

**4. ESTIMATED COMPLETION DATE**

This modification must be reported complete within 60 days after completion by the Installation and Check-out (INCO) team.

**5. EQUIPMENT AFFECTED**

Legacy PUP Group and Large/Medium OPUP Group.

**6. SPARES AFFECTED**

All Legacy PUP spares will be obsolete after this modification and should be removed from local stock using AF Form 1261.

**7. MODIFICATION ACCOMPLISHED BY**

An INCO team will install the new OPUP equipment and perform operational testing.

Coordination will be required with the Radar Operations Center (ROC) and the Radar Product Generator (RPG) site for the communications switch over.

The site operations NEXRAD focal point is responsible for reporting the completion of this modification.

**8. MATERIALS REQUIRED**

Each site should have the designated place already selected for the installation of this equipment. The operations area should have the required power outlet and the relocated dedicated and dial connection, located within 6 feet.

UD80 Mod Kit will be shipped from the ROC. Equipment that needs to be configured and have software loaded on it (Processor, Communications Server, and Modem) will have that work done at the ROC. The following components will be shipped from the ROC:

<b>Nomenclature</b>	<b>Part Number</b>	<b>NSN</b>	<b>Qty</b>
* OS Load Media/ Applications CD-ROM	N/A	N/A	4
System Allocation Document (SAD)	N/A	N/A	1
Site Specific AF Form 1261	N/A	N/A	1

**9. SOURCE OF MATERIALS**

All materials will be requisitioned by the ROC and shipped to the site.

**10. SPECIAL TOOLS AND TEST EQUIPMENT REQUIRED**

Not applicable.

**11. TIME REQUIRED**

<b>Work Phases</b>	<b>Work Hours</b>
Unpacking	1.5
Assembly	24.0
Coordinate Communications Switch Over	2.5
Operational Check	12.0
Total Work-hours	40.0

**12. DOCUMENTS AFFECTED**

**The following technical manuals will be obsolete upon completion of this TCTO:**

- a. Maintenance Instructions, Principal User Processor, dated 15 January 1996  
NWS: EHB 6-530  
DoD: AF TO 31P1-4-108-182  
FAA: TI 6345.1 V15  
Navy: EEM400-AE-MMM-010/WSR-88D
- b. Operations Instructions, Principal User Processor Group, dated 22 February 1995  
NWS: EHB 6-531  
DoD: AF TO 31P1-4-108-61  
FAA: TI 6460.1 V16  
Navy: EM400-AF-OPI-010/WSR88D
- c. User's Guide, Principal User Processor/Radar Product Generation Operational Position (PUP/RPGOP), dated 3 February 1995  
NWS: EHB 6-531-1  
DoD: AF TO 31P1-4-108-78-1  
FAA: 6460.1 V31  
Navy: EM400-AG-GYD-010
- d. Commercial Off the Shelf (COTS) Manual Tektronix Incorporated Model 4693DX Color Image Printer User Manual, dated 15 April 1993  
NWS: EHB 6-532  
DoD: AF TO 31P1-4-108-138-1  
FAA: 6460.1 V18  
Navy: EM400-AH-OPI-010/WSR-88D
- e. Commercial Off the Shelf (COTS) Manual Model 4693DX Color Image Printer, Part Number 4693D Field Service Manual, Print Engine Information, dated 15 April 1993  
NWS: EHB 6-533 Vol 1  
DoD: AF TO 31P1-4-108-132-1  
FAA: TI 6460.1 V23  
Navy: EM400-AJ-MMM-010

- f. Commercial Off the Shelf (COTS) Manual Model 4693DX Color Image Printer, Part Number 4693D Field Service Manual, Interface Information, dated 15 April 1993  
NWS: EHB 6-533 Vol 2  
DoD: AF TO 31P1-4-108-132-2  
FAA: TI 6460.1 V24  
Navy: EM400-AJ-MMM-101

**13. VERIFICATION STATEMENT**

This modification was successfully performed at the ROC in Norman, OK.

**14. DISPOSITION OF REMOVED AND REPLACED PARTS/MATERIALS**

The Legacy PUP is to be powered down in accordance with TO 31P1-4-108-182, paragraph 4-3.4. The legacy PUPS will be turned into the appropriate supply office using the supplied AF Form 1261.

**15. PROCEDURES**

Each site should already have a designated location selected for the placement of this equipment. This location should already be equipped with the required power outlets, dedicated and dial communications services, and local LAN service all located within 6 feet of the designated location.

The site operations NEXRAD focal point is responsible for ensuring that the INCO team has successfully completed the OPUP installation. It should be verified that the OPUP is installed and operating without error. The same operations NEXRAD focal point is responsible for completing the OPUP Acceptance Form in [ATTACHMENT 2](#) and returning it to the ROC.

After the completion of the attachments above, complete the System Allocation Document (SAD) provided in the kit, and return a copy to the ROC, Retrofit Management Team, attention Mark Miller. The original SAD will be retained locally.

**16. FAA DISTRIBUTION**

Not applicable.

**17. CHANGES TO TABLE OF CONTENTS (FAA)**

Not applicable.

**18. RECOMMENDATIONS FOR CHANGES (FAA)**

Not applicable.

**19. REPORTING INSTRUCTIONS**

Update the AFTO Form 95 to show TCTO compliance. Report TCTO compliance in accordance with TO 00-20-2, Table 3-10, Rule 9.

Complete [ATTACHMENT 2](#) and return it to the ROC by one of the following methods:

(1) Mailing Address: Program Branch, Retrofit Management Team  
WSR-88D Radar Operations Center  
3200 Marshall Ave., Suite 101  
Norman, Oklahoma 73072-8028

(2) Fax Number: (405) 366-6553  
ATTN: Retrofit Management Team

ATTACHMENT 1

EFFECTIVITY

Table 1: Sites Receiving a Large OPUP

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
BARKSDALE AFB (26 OWS)	BARKSDALE AFB, LA	OPUP	BRK	FE4608
DAVIS MONTHAN AFB (25 OWS)	DAVIS MONTHAN AFB, AZ	OPUP	DMA	FE4877
SCOTT AFB (15 OWS)	SCOTT AFB, IL	OPUP	BLV	FE4407
SHAW AFB (28 OWS)	SHAW AFB, SC	OPUP	SSC	FE4803

Table 2: Sites Receiving a Medium OPUP

NEXRAD Site Name	City, ST	EQP	SID	ORG Code
ELMENDORF AFB (11 OWS)	ELMENDORF AFB, AK	OPUP	EDF	FE5000
HICKAM AFB (17 OWS)	HICKAM AFB, HI	OPUP	HIK	FE5260
YOKOTA AB (20 OWS)	YOKOTA AB, JA	OPUP	RJTY	



ATTACHMENT 2

AIR FORCE LARGE/MEDIUM OPUP DEPLOYMENT ACCEPTANCE FORM

Site Name: \_\_\_\_\_

Total Time to Complete this Modification: \_\_\_\_\_

INCO Team Chief Name: \_\_\_\_\_

Site Technician's Name(s): \_\_\_\_\_

Site Technician's Phone Number: \_\_\_\_\_

Site Identifier: \_\_\_\_\_ Date Completed: \_\_\_\_\_

I acknowledge that the Large/Medium Open PUP has been installed and is operational as demonstrated by the Acceptance Test. I concur with the list of Open Issues (if any) listed below (attached additional sheets if necessary).

Open Issues:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Position/Title

Upon completing this form, return it to the ROC by one of the following methods:

- (1.) Mailing Address: Program Branch, Retrofit Management Team  
WSR-88D Radar Operations Center  
3200 Marshall Ave., Suite 101  
Norman, OK 73072-8028

- (2.) FAX Number: (405) 366-6553 ATTN: Retrofit Management Team